REMARKS/ARGUMENTS

Claims 70-101 are currently pending in this application and stand rejected by the Examiner. Applicant has amended claims 83 and 91 to correct inadvertent typographical errors. Applicant submits that no new subject matter has been introduced by the amendments.

THE CLAIMS

Rejections under 35 U.S.C 103

Claims 70-101 are rejected under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent No. 6,578,066) (hereinafter "Logan") in view of Andrews et al. (U.S. Publication No. 2002/0038360) (hereinafter "Andrews"). Applicant submits that the pending claims are patentable over Logan and Andrews, considered individually or in combination, for at least the reasons stated below.

Claims 70-85, 91-95, and 100-101

Applicant submits that claim 70 recites features that are not taught or suggested by Logan and Andrews, considered individually or in combination. In addition to other features, claim 70 recites

> ordering, in the load balancing switch, a plurality of network addresses, the network addresses being responsive to a query regarding a domain name, wherein the load balancing switch is capable of ordering the plurality of network addresses based, at least in part, on the round trip time data. (Applicant's claim 70, emphasis added).

As recited above, claim 70 specifically recites ordering a plurality of network addresses based, at least in part, on the round trip time data. Applicant would like to point out that ordering a plurality of network addresses is substantially different from merely picking a network address with the shortest round trip time. The ordering creates an ordered list of network addresses.

The Office Action acknowledges that Logan is silent about round trip time (Office Action dated 11/17/06: page 2 last 2 sentences). The Office Action however goes on to assert that the round trip time related features are taught by Andrews. The Office Action states:

> Andrews discloses in analogous art a system and method for locating a closest server in response to a client domain name request including wherein the round trip time data a time for exchanging at least one message between a first host, and a first client machine (see paragraphs 0103-0105 and table 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention presented with teachings of Logan to incorporate the round trip measuring mechanism as suggested by Andrews, thereby selecting nearby content server having the least round trip time for responding to a client request. (Office Action dated 11/17/06: page 3 first paragraph)

Applicant respectfully disagrees and submits that the deficiencies of Logan are not cured by Andrews. In particular, Applicant submits that Andrews fails to teach or suggest at least the "ordering" feature recited in claim 70.

Regarding the sections of Andrews identified in the Office Action, there are two Table IV tables in Andrews, one depicted on pg. 8 and the other on pg. 9 of Andrews, and it is unclear which table the Office Action is referring to in rejecting claim 70. However, Applicant submits that neither of these tables teaches or suggests ordering of network addresses as recited in claim 70. In Andrews, client IP addresses along with their associated network distances from content servers are clustered in clusters or groups based upon the similarity of their IP address prefixes (See Andrews: paragraph 0081). The output of the clustering operation is stored in a table such as table IV depicted on pg. 8 of Andrews. This table shows information for each cluster including a mean network distance computed between the computed classless inter-domain routing (CIDR) prefix address representing that client cluster and the respective content server (See Andrews: paragraph 0093). A testing index is also computed for each client cluster. Applicant however submits that Table IV on pg. 8 does not show any ordering of network addresses based upon round trip time data. Table IV on pg. 8 of Andrews merely stores information for clusters without performing any ordering as recited in claim 70. There is no teaching in Andrews that the clustering operation involves ordering of network address based upon round trip time data, as recited in Applicant's claim 70.

Andrews further describes that Table IV depicted on pg. 8 of Andrews is used as an input to a mapping operation. A mapping operation, as described in Andrews, pairs each identified client cluster with one or more preferred content servers in the network where each

content serve is assigned a selection probability as illustrated in Table IV (See Andrews: paragraph 0098). Table IV on pg. 9 of Andrews depicts an exemplary output of the mapping operation. The first column of Table IV on pg. 9 identifies particular client clusters. Each client cluster contains a row for each preferred content server, domain index pair identified by the mapping operation as having a low round trip time. For example, row 1 of Table IV identifies content server, domain index pair: (1,12). That is, for client cluster 1, content server 1 is identified as having a low round trip time with respect to the client cluster and further stores domain index 12. Column four of Table IV stores a selection probability which is assigned to each preferred content server in the table to ensure that the respective maximum service capacities of each content server is never exceeded. Selection probabilities are assigned to each content server to distribute the request load in a manner which ensures that the respective network capacities of each content server will not be exceeded. Applicant however submits that Table IV on pg. 9 does not show any ordering of network addresses based upon round trip time data. Each row of Table IV on pg. 9 of Andrews merely depicts client clusters and their preferred content servers -- there is however no ordering of network addresses based upon round trip time data, as recited in claim 70. Additionally, the information stored in Table IV is for client clusters and not round trip time data between a first client and a host server site switch as recited in claim 70.

Applicant thus submits that neither of the Tables IV depicted on pgs. 8 and 9 of Andrews teaches or suggests ordering a plurality of network addresses based, at least in part, on the round trip time data, as recited in claim 70.

The Office Action further points to paragraphs 0103-0105 of Andrews in rejecting claim 70. Applicant however submits that these paragraphs of Andrews also fail to teach or suggest at least the "ordering" feature of claim 70. These paragraphs of Andrews describe FIG. 4 in Andrews as depicting a first column of nodes 32a-f and a second column of nodes 34a-g. Nodes 32a-f represent (client cluster, domain index) pairs. These nodes can be considered demand nodes in that each pair defines a requestor (i.e., client cluster) and the requested content (i.e., domain index). Nodes 34a-g represent all content servers in the network and can be considered resources for satisfying the requesting nodes 32a-f. The directed arrows represent the

flow from demand nodes 32a-f to resource nodes 34a-g. Each directed arrow defines a distance from a demand node (client cluster) to a resource node (cache). These distances may be obtained directly from the output of the clustering algorithm. Andrews describes that an objective of the assignment operation to push flow from the demand nodes to the resource nodes in such a way that the majority of flow is conducted along directed arrows whose distance values are small thereby promoting minimum round trip time while not overloading the resource nodes 34a-g. Andrews then goes on to describe in paragraph 0105 how promotion of minimum round trip time while preventing overloading at the content servers is achieved using a capacity value assigned to each resource node 34a-g on the right defining each node's service capacity and assigning a demand value to each node 32a-g which defines the amount of demand from each client cluster for each domain.

Applicant submits that paragraphs 0103-0105 of Andrews describe processing related to client clusters and not a client as recited in claim 70. Further, Applicant submits that the processing described in these paragraphs does not teach any ordering of network addresses as recited in claim 70. Andrews seems to teach selecting a content server with the minimum round trip time to a client cluster, but does not teach ordering of network addresses based upon the round trip time data. As previously pointed out, ordering a plurality of network addresses is substantially different from merely picking a network address with the shortest round trip time. The ordering creates an ordered list of network addresses. Merely picking a content server with the minimum round trip time does not imply or require any sort of ordering or creation of an ordered list. Applicant thus submits that paragraphs 0103-0105 of Andrews fail to teach or suggest ordering a plurality of network addresses based, at least in part, on the round trip time data, as recited in claim 70.

In light of the above, Applicant submits that Andrews fails to teach or suggest at least the "ordering" feature recited in claim 70 and that the deficiencies of Logan are not cured by Andrews. Applicant thus submits that even if Logan and Andrews were combined as suggested by the Office Action, the resultant combination would not teach or suggest Applicant's claim 70. Applicant thus submits that claim 70 is patentable over a combination of Logan and Andrews.

Applicant submits that claims 71-85 that depend from claim 70 are also patentable over a combination of Logan and Andrews for at least a similar rationale as discussed above for claim 70. The dependent claims are also patentable for additional reasons.

Applicant further submits that independent claims 91 and 100 are also allowable over a combination of Logan and Andrews for at least a similar rationale as discussed above for claim 70. Claims 92-95 and 101 that depend from claims 91 and 100 respectively are also patentable for at least a similar rationale as discussed above for the allowability of the independent claims from which they depend. The dependent claims are also patentable for additional reasons.

Claims 86-90 and 96-99

Applicant submits that claim 86 is not taught or suggested by Logan and Andrews, considered individually or in combination, for at least the reasons stated below. Applicant's claim 86 recites, in part:

> selecting, from a plurality of network addresses responsive to the request, a best network address based, at least in part, on which of the plurality of network addresses has been least recently selected by the load balancing switch as a best network address in response to previous queries. (Applicant's claim 86, emphasis added)

As recited above in claim 86, a best network address is selected based, at least in part, on which network address from the plurality of network addresses has been least recently selected as the best network address in response to previous queries. Applicant submits that at least this concept recited in claim 86 is not taught or suggested by a combination of Logan and Andrews.

The Office Action acknowledges that this feature recited in claim 86 is not taught or suggested by Logan (See Office Action dated 11/17/06: lines in the middle of the page 4). The Office Action however asserts that the feature is taught by Andrews. The Office Action states:

> Andrews discloses in analogous art a system and method for locating a closest server in response to a client domain name request including selecting network addresses that has been least recently selected (see paragraphs 0029 and 0032). Therefore, it would have been obvious to one

> having ordinary skill in the art at the time of the invention presented with teachings of Logan to incorporate the round trip measuring mechanism as suggested by Andrews, thereby enabling selecting a content server with best response time (Office Action dated 11/17/06: page 4 last full paragraph)

Applicant respectfully disagrees and submits that the deficiencies of Logan are not cured by Andrews. Applicant submits that the sections of Andrews pointed out by the Office Action do not teach anything about selecting, from a plurality of network addresses, a best network address based, at least in part, on which of the plurality of network addresses has been least recently selected by a load balancing switch as a best network address in response to previous queries.

Paragraph 0029 of Andrews describes how a client clusters table is used when a client request for a particular domain is received. As described in paragraph 0029, a relevant row in the table is first determined based upon the client's IP address prefix. A best-performing content server is then selected from the servers listed in that row. As part of the selection in Andrews, the servers listed in the table row each have a selection probability associated with them indicative of the preference for that content server. In one example described in the paragraph, a content server with an associated selection probability of 0.9 is a more likely selection as a best-performing candidate than a content server whose associated selection probability is 0.05. As another example, Andrews describes that a random number between zero and one is generated and a best-performing content server selected based upon the random number and the associated selection probability values associated with the eligible content servers.

Applicant thus submits that paragraph 0029 of Andrews does not teach anything about selecting a best network address from a plurality of network addresses based on which of the plurality of network addresses has been least recently selected by the load balancing switch as a best network address in response to previous queries, as recited in claim 86. Paragraph 0029 fails to teach that a content server is selected as the best-performing content server based upon a least recently selected parameter. As described in paragraph 0029 of Andrews, the selective probabilities associated with content servers are used to determine which server is selected as the

best-performing content server. However, there is no teaching or suggestion in paragraph 0029 that the selective probabilities have anything to do with which server was least recently selected as the best-performing content server. The selection example described in paragraph 0029 of Andrews uses a random number generator to determine which content server is selected as the best-performing server and also does not teach or suggest selecting a server that has been least recently selected in response to previous queries. Applicant thus submits that paragraph 0029 of Andrews fails to teach the feature of selecting a network address from a plurality of network addresses as the best network address based on which of the plurality of network addresses has been least recently selected as a best network address in response to previous queries, as recited in claim 86.

Paragraph 0032 of Andrews (which was also identified in the Office Action for rejecting the claims) teaches that clients make domain name (DNS) requests to local DNS servers (as depicted in Fig. 1 of Andrews). The local DNS server forwards the client request to a redirection server. The redirection server responds to the client request by returning to the client the IP address of a content server in the network determined to be a preferred content server. However, there is nothing in this paragraph to teach or suggest that the preferred content server is one that has been least recently selected in response to previous DNS queries. Applicant thus submits that this paragraph of Andrews also fails to teach or suggest anything about selecting a network address from a plurality of network addresses as the best network address based on which of the plurality of network addresses has been least recently selected as a best network address in response to previous queries, as recited in claim 86.

In light of the above, Applicant submits that neither Logan nor Andrews teach or suggest the "selecting" step recited in claim 86. Applicant thus submits that even if Logan and Andrews were combined as suggested by the Office Action, the resultant combination would not teach this feature recited in claim 86. Applicant thus submits that claim 86 is patentable over a combination of Logan and Andrews for at least the reasons stated above.

Applicant submits that dependent claims 87-90 that depend from claim 86 are also patentable over a combination of Logan and Andrews for at least a similar rationale as discussed above for claim 86. The dependent claims are also patentable for additional reasons.

Applicant submits that independent claim 96 is patentable over a combination of Logan and Andrews for at least a similar rationale as discussed above for claim 86. Applicant further submits that dependent claims 97-99 that depend from claim 96 are also patentable for at least a similar rationale as discussed above for claim 96. The dependent claims are also patentable for additional reasons.

Claims 83 and 91

Applicant has amended claims 83 and 91 to correct inadvertent typographical errors.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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